REMARKS

The Examiner rejected claims 56-78. Applicants respectfully traverse the rejections and request reconsideration and allowance of claims 56-78.

Information Disclosure Statement

Applicants respectfully note that an initialed copy of the PTO-1449 form March 6, 2001, has not been returned. Thus, Applicants respectfully request return of an initialed copy. For the Examiner's convenience, a copy of the PTO-1449 form mailed March 6, 2001 is attached hereto.

Rejections under 35 U.S.C. § 103

The Examiner rejected claims 56-60 and 63-78 under 35 U.S.C. § 103(a) as being obvious over Ospinal *et al.* (U.S. Pat. No. 5,965,508) in view of Sherry *et al.* (U.S. 5,962,388). Specifically, the Examiner stated that Ospinal *et al.* teach compositions that may be used to produce a "transparent dish washing gel, paste, or solution, or further applications such as are apparent to one skilled in the art." With respect to the pH and particular components present in the claimed liquid automatic dishwashing detergent compositions, the Examiner stated that Ospinal *et al.* teach a pH range of from about 4.0 to about 10.0, and that Ospinal *et al.* teach, at various points, the inclusion of detergent builders, cellulase enzymes; citric acid, paraffin, polyols, and calcium ions. The Examiner, however, acknowledged that the Ospinal *et al.* reference does not specifically teach a "dishwashing detergent comprising a xanthan gum and a protease and having the specific activities of claims 56 and 59-60" or the "performance in the standard test wash, as recited by instant claims 66-73."

The Examiner stated that Sherry *et al.* teach aqueous detergent compositions and hard surface cleaning compositions that have a pH from about 2 to about 4 and that comprise enzymes such as proteases, thickeners, and xanthan gum. In conclusion, the Examiner stated:

> It would have been obvious, to one of ordinary skill in the art, at the time the invention was made, to formulate a liquid dishwashing detergent having a pH value less than about 6.8 and further comprising the other requisite components of the detergent composition in the specific proportions as recited by the instant claims, with a reasonable expectation of success, because the broad teachings of

> Ospinal et al. in combination with Sherry et al. suggest a liquid detergent composition formulated in such a manner as to have a pH of less than 6.8 and comprising protease enzyme and xanthan gum and the other requisite components of the detergent composition in the same proportions as recited by the instant claims.
>
> Further, one of ordinary skill in the art would have been motivated to combine the teachings of Sherry et al. with Ospinal et al. because Ospinal et al. teach the use of thickeners and enzymes in acidic detergent compositions in general and Sherry et al. suggest the use of xanthan gum and protease enzyme in an acidic detergent composition for enhanced removal of soap scum and hard water deposits.

Applicants respectfully disagree. Proper analysis under § 103 requires consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed product, and (2) whether the prior art would also have revealed that in so making, those of ordinary skill would have a reasonable expectation of success. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Present claims 56-78 are directed to liquid automatic dishwashing detergents. As the specification states on page 1, liquid automatic dishwashing detergents have a thixotropic rheology so that they may be easily poured from their containers but not leak from the dispensing cup of a dishwashing machine prior to the appropriate wash cycle. In addition, the claimed liquid automatic dishwashing detergents have at least one detergent enzyme, at least one xanthan gum, and a pH less than about 6.8.

The Ospinal *et al.* reference does not teach or suggest making a liquid automatic dishwashing detergent. In fact, at no point does the Ospinal *et al.* reference mention a liquid automatic dishwashing detergent, let alone a liquid automatic dishwashing detergent having at least one detergent enzyme, at least one xanthan gum, and a pH less than about 6.8. The Ospinal *et al.* reference discloses preparation of "mild personal cleansing and/or laundry detergent bars." See, col. 1, lines 7-9. The Ospinal *et al.* reference also states that the "compositions may be used to produce a transparent dish washing gel, paste, or solution." The transparent dish washing solutions of the Ospinal *et al.* reference are not liquid automatic dishwashing detergents. To highlight the fact that the Ospinal *et al.* reference does not relate to liquid automatic dishwashing detergents, Ospinal *et al.* repeatedly discuss that their compositions are "mild to the skin" and

have "good lathering properties." See, the section from col. 2, line 66 to col. 3, line 3. For example, Ospinal *et al.* discuss the inclusion of "skin-feel" ingredients (e.g., skin softening and/or moisturizing agents). See, col. 16, lines 19-21. Clearly, such agents would be useful for manual dish washing solutions for sink use, but are irrelevant for dishwashing machines.

In addition, the main ingredients in the Ospinal *et al.* compositions are anionic surfactants. In fact, as much as 99% of each Ospinal *et al.* composition can be an anionic surfactant. See, col. 3, lines 47-51; col. 4, lines 33-36; and col. 5, lines 14-17. A person having ordinary skill in the art would have known that anionic surfactants, particularly at such high levels, are not used to make liquid automatic dishwashing detergents. As explained in Surfactants in Consumer Products,

> Due to the intensive mechanical input by water the generally strongly foaming anionic surfactants cannot be used in DWM [dishwashing machines]. In contrast to manual dishwashing, where high levels of foam are definitely desired and even utilized as a criteria for the product evaluation (see Sect. 5.2.1), foaming is unwanted in a DWM because it leads to diminished pumping action as well as to a noticeable reduction in the cleaning efficiency.
>
> * * *
>
> However, nonionic surfactants are preferred for applications in DWM detergents and rinse aids due to their phase behavior, which varies from that of other surfactants.

Page 324 of Surfactants in Consumer Products, J. Falbe (Ed.) Springer-Verlag Heidelberg, 1987. For the Examiner's convenience, a copy of Chapter 5 of this book is enclosed herein.

In light of the above, it is clear that the Ospinal *et al.* reference fails to teach or suggest any liquid automatic dishwashing detergent, let alone a liquid automatic dishwashing detergent having at least one detergent enzyme, at least one xanthan gum, and a pH less than about 6.8.

The Sherry *et al.* reference does not cure the deficiencies of the Ospinal *et al.* reference. The Sherry *et al.* reference discloses aqueous detergent compositions and hard surface cleaning compositions, e.g., compositions useful for cleaning the bathroom, including ceramic, fiber glass, polyurethane, and plastic surfaces encountered in the bathroom. See, col. 1, lines 20-41; col. 2, lines 13-19. The Sherry *et al.* reference also discloses that its acidic compositions can clean soap scum and hard water marks and prevent mold/mildew. For example, Sherry *et al.* test their compositions for soap scum removal and hard water removal ability against Dow Bath Room®

aerosol as a control. See, col. 10, lines 1-55. Like Ospinal *et al.*, Sherry *et al.* do not mention liquid automatic dishwashing detergents. In addition, at no point do the cited references suggest modifying the cleaning agents disclosed in the cited references to form a liquid automatic dishwashing detergent. Again, neither Ospinal *et al.* nor Sherry *et al.* mention liquid automatic dishwashing detergents, let alone the presently claimed liquid automatic dishwashing detergents. In fact, a person having ordinary skill in the art at the time Applicants filed would have appreciated (1) that bar soaps and bathroom cleaners are not liquid automatic dishwashing detergents and (2) that knowing the ingredients of bar soaps and bathroom cleaners provides no suggestion to prepare a liquid automatic dishwashing detergent.

Moreover, while the cited references provide lengthy lists of possible ingredients for inclusion in their respective bar soaps and bathroom cleaners, they fail to provide the required suggestion or motivation to make the particular combination of components recited in the present claims. In fact, at no point do the cited references suggest making a liquid automatic dishwashing detergent having at least one detergent enzyme, at least one xanthan gum, and a pH less than about 6.8. The law of obviousness is clear in that to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestions or teaching of the desirability of making the specific combination that was made by the applicant. In re Dance, 160 F.3d 1339, 1343 (Fed. Cir. 2000); In re Oetiker, 977 F.2d 1443, 1445 (Fed. Cir. 1992). "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." In re Fine, 837 F.2d 1071, 1075 (Fed. Cir. 1988). Since the cited references fail to suggest combining the recited components to make the presently claimed liquid automatic dishwashing detergent, they do not render the presently claimed liquid automatic dishwashing detergents obvious. Accordingly, given the above, the present claims are patentable over the cited references.

In light of the above, Applicants respectfully request withdrawal of the rejection of claims 56-60 and 63-78 under 35 U.S.C. § 103(a).

The Examiner also rejected claims 61 and 62 under 35 U.S.C. § 103(a) as being obvious over Ospinal *et al.*, as set forth above, further in view of Gray *et al.* (U.S. Pat. No. 5,269,960). The Examiner acknowledged that Ospinal *et al.* do not teach the "utility of an amylase enzyme in

an acidic detergent composition as recited by the instant claims." The Examiner asserted, however, that Gray *et al.* teach the equivalence of amylase and protease enzymes in an acidic detergent composition, and that Gray *et al.* teach that the pH of its invention varies from about 6-9. Finally, the Examiner stated that:

> It would have been obvious, to one of ordinary skill in the art, at the time the invention was made, to formulate a liquid dishwashing detergent having a pH less than about 6.8 and further comprising an amylase enzyme in the specific proportions as recited by the instant claims with a reasonable expectation of success because the broad teachings of Ospinal *et al.* in combination with Gray *et al.* suggest a liquid detergent composition formulated in such a manner as to have a pH of less than 6.8 and comprising amylase enzyme in the same proportions as recited by the instant claims. Further, one of ordinary skill in the art would have been motivated to combine the teachings of Gray *et al.* with Ospinal *et al.* because Ospinal *et al.* teach the use of enzymes in acidic detergent compositions in general and Gray *et al.* suggest the use of specific amylase and protease enzymes in an acidic detergent composition.

Applicants respectfully disagree. Again, present claims 56-78 are directed to liquid automatic dishwashing detergents. The liquid automatic dishwashing detergents have at least one detergent enzyme, at least one xanthan gum, and a pH value less than about 6.8.

As discussed above, the Ospinal *et al.* reference does not teach or suggest a liquid automatic dishwashing detergent, let alone the presently claimed liquid automatic dishwashing detergents. The Gray *et al.* reference fails to cure the deficiencies of the Ospinal *et al.* reference. The Gray *et al.* reference discloses liquid detergents for cleaning clothes. See, col. 1, lines 11-32. For example, the Gray *et al.* reference discloses testing the detergency action of their compositions by assessing the percentage of soil removal from various fabrics. See, col. 10, Table II. At no point does the Gray *et al.* reference suggest modifying its compositions to form a liquid automatic dishwashing detergent. A person having ordinary skill in the art at the time Applicants filed would have appreciated (1) that bar soaps and detergents for cleaning clothes are not liquid automatic dishwashing detergents and (2) that knowing the ingredients of bar soaps and detergents for cleaning clothes provides no suggestion to prepare a liquid automatic dishwashing detergent. Thus, the combination of cited references does not render the presently claimed liquid automatic dishwashing detergents obvious. Accordingly, the present claims are patentable over the cited references.

In light of the above, Applicants respectfully request withdrawal of the rejection of claims 61 and 62 under 35 U.S.C. § 103(a).

CONCLUSION

Applicants submit that claims 56-78 are in condition for allowance, which action is requested. The Examiner is invited to call the undersigned agent at the telephone number below if such will advance prosecution of this application. The Commissioner is authorized to charge any fees or credit any overpayments to Deposit Account No. 06-1050.

Respectfully submitted,

Date: February 24, 2003

J. Patrick Finn III, Ph.D.
Reg. No. 44,109

Fish & Richardson P.C., P.A.
60 South Sixth Street
Suite 3300
Minneapolis, MN 55402
Telephone: (612) 335-5070
Facsimile: (612) 288-9696

60124527.doc